2005 Integrated Energy Policy Report

Integrated Energy Policy Report Committee:

Commissioner John L. Geesman, Presiding Member
Commissioner James D. Boyd, Associate Member

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Agenda

September 27, 2005

- **Overview of *Draft Energy Report* chapters:**
  - **Ch. 8 Integrating Water and Energy Strategies**
  - **Ch. 9 Global Climate Change**
  - **Ch. 10 Border Energy**
- **Receive comments on those topics**
- **Written comments are due:**

October 14, 2005

2005 Energy Report
Hearing Schedule

September 23, 9 a.m.	***Draft Strategic Transmission Plan***
September 27, 1 p.m.	Water/ Energy, Global Climate Change, and Border Energy
September 29, 1 p.m.	**Transportation**
October 6, 9 a.m.	**Demand-side Resources, Distributed Generation, Renewable Resources, and other Electricity Resources (Clean Coal and Nuclear)**
October 7, 9 a.m.	**Electricity Needs & Procurement Policies, and Transmission**
October 7, 1 p.m.	**Natural Gas**

2005 Energy Report Schedule

October 14:	Written comments due
Early November:	Publish the Final Committee *Energy Report, Transmission Strategic Plan*, and *Transmittal Report*
November 16:	Energy Commission Business Meeting to consider adoption of the *2005 Energy Report*, *Transmission Strategic Plan*, and *Transmittal Report*
Early December:	Deliver report to Governor and Legislature

Energy Report Process
Public Resources Code 2300 *et seq.*

Integrated policy development

- **Policy recommendations will be made based on an in depth and integrated analysis of energy issues facing the state. (Pub. Res. Code 25302(b))**

Common information base for energy agencies

- **The state's energy agencies will use the information and analyses contained in the report to carry out their energy-related duties. (Pub. Res. Code 25302(f))**

Timing

- **A policy report that includes an in depth assessment and forecasts of all energy sectors will be adopted by the Energy Commission every two years, and a supplement to the previous energy report on specific issues will be adopted in the off years.**

2005 Energy Report Proceeding

- Collaboration with federal, state and local agencies
- 50+ Committee hearings and workshops
- 25,000+ pages of docketed materials
- More than 50 staff and consultant papers and reports
- Three Draft Committee Reports
  - ***2005 Energy Report***
  - ***Strategic Transmission Investment Plan***
  - ***Transmittal Report to CPUC (coming soon)***

Draft Energy Report

Integrating Water And Energy Strategies

Energy use in the water cycle

- California's water infrastructure uses a tremendous amount of energy
- California consumers also use energy to heat, cool, and pressurize water for use in their homes and businesses.
- Combined, these water-related end uses account for
  - roughly one-fifth of the state's electricity consumption, costing California consumers about $2 billion,
  - one-third of the non-power plant natural gas consumption, and
  - about 2.7 percent of diesel fuel consumption.

2001 Water-Related Energy Use in California

	Electricity (GWh)	Natural Gas (Mill. Therms)	Diesel (Mill. Gallons)
Water Supply and Treatment			
Urban	7,554	19	?
Agricultural	3,188		
End Uses			
Agricultural	7,372	18	88
Residential	27,887	4,220	?
Commercial			
Industrial			
Wastewater Treatment	2,012	27	?
TOTAL	48,012	4,284	88
2001 Consumption	250,494	13,571	?
Percent of Statewide Energy Use	19%	32%	?

Draft Energy Report

Integrating Water And Energy Strategies

Energy savings from water efficiency

- Significant untapped energy savings potential exists in programs focused on water use efficiency
- Energy intensity of water delivery system is higher for Southern California
- Energy savings from such programs could achieve:
  - 95 percent of the energy savings expected from the 2006-2008 energy efficiency programs at 58 percent of the cost
  - 60 percent of planned-for reductions in peak demand

Comparison of Energy Efficiency Programs Resource Value to Water Use Efficiency Best-Management Practices

	Energy Efficiency Programs		
	2004-2005	2006-2008	Water Use Efficiency (WUE)
GWh (annualized)	2,745	6,812	6,500
MW	690	1,417	850
Funding ($ million)	762	1,500	826
$/Annual kWh	0.28	0.22	0.13
WUE Relative Cost	46%	58%	

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Integrating Water And Energy Strategies

Key recommendations

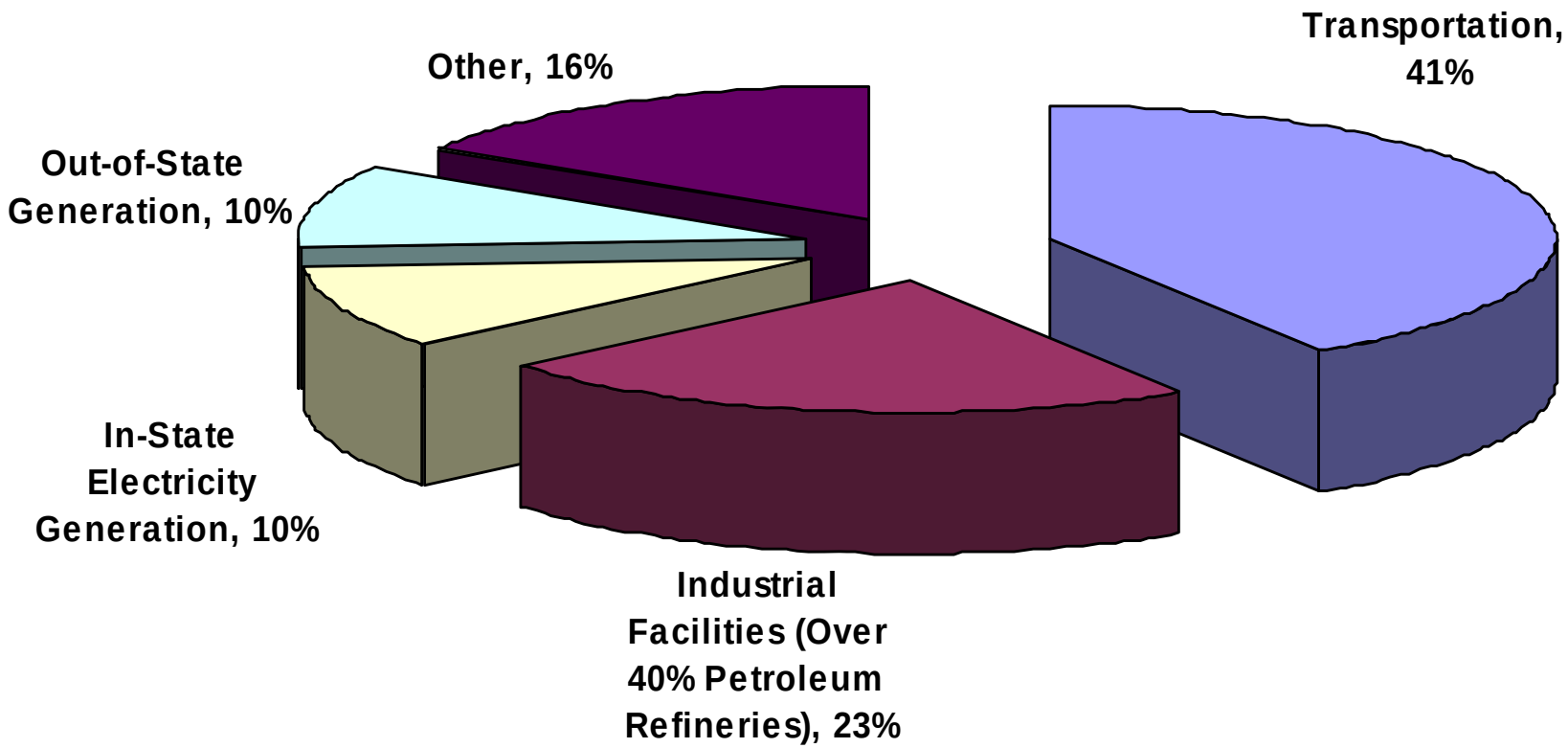
- Pursue cost-effective water efficiency opportunities that produce energy savings, especially in Southern California
- Enhance hydropower production through improved runoff forecasting and decision support models
- Increase generation from water system, including in-conduit hydropower and biogas recovery
- Collaborate through the Ocean Protection Council on assessing and mitigating impacts of once-through cooling systems

Draft Energy Report
Global Climate Change

- **California is the tenth largest emitter of greenhouse gases (GHG) in the world, with more emissions than any state in the nation except Texas.**

- **In June 2005, Governor Schwarzenegger established the following statewide greenhouse gas emissions targets:**
  - By 2010, reduce emissions to 2000 emission levels.
  - By 2020, reduce emissions to 1990 emission levels.
  - By 2050, reduce emissions to 80 percent below 1990 levels.

California's Greenhouse Gas Emissions



Draft Energy Report
Global Climate Change

- **California Environmental Protection Agency to lead the Climate Action Team, which includes:**
  - **Business, Transportation and Housing Agency**
  - **Department of Food and Agriculture**
  - **Resources Agency**
  - **California Air Resources Board**
  - **Energy Commission, and**
  - **California Public Utilities Commission**
- **Climate Action Team is responsible for implementing strategies to meet these targets and to report progress**
- **First report due in January 2006**

Draft Energy Report
Global Climate Change

Energy Commission climate change activities have included:

- At the direction of the legislature, convening the Climate Change Advisory Committee, with members from key sectors of the California economy that will be affected by climate change
- Working with the Center for Clean Air Policy to compile "bottom-up" assessment of emission reduction measures in the transportation, industrial, agricultural and forestry sectors
- Prepared and updated the Greenhouse Gas Emissions Inventory
- Provided technical support to the California Climate Action Registry

Draft Energy Report
Global Climate Change

The Energy Commission will provide Cal EPA and the Climate Action Team:

- Advisory Committee recommendations
- Results of the Center for Clean Air Policy assessment of emission reduction measures
- Portions of the *Energy Report* proceeding record relating to climate change

Draft Energy Report
Global Climate Change

The Energy Commission will:

- Continue to provide technical and analytical support to the Governor's Climate Action Team.
- Consider the advisory recommendations of the Climate Change Advisory Committee in evaluating state-level strategies.
- Improve the "top-down" statewide inventory on GHG emissions and support steps to evaluate the need for a mandatory reporting system.
- Support efforts by the California Climate Action Registry to collect data on facility-level and entity-wide GHG emissions.
- Support efforts by the CPUC to fully internalize the benefits of reducing carbon generation through a carbon adder required in utility resource procurement.

Draft Energy Report
Border Energy

- **Growth in the California – Baja California Norte border region is substantially increasing the demand for energy.**
- **New natural gas-fired power plants will be used predominantly to meet the growing demand for electricity**
- **Attention is being given to developing renewable energy.**
- **Liquefied natural gas facilities are being developed in Baja California Norte to meet local demand and demand in California.**
- **The border region is becoming an "energy corridor" as states on both sides of the border develop facilities not only to meet local needs, but also to export across state and international borders.**
- **The energy relationship between California and Baja California Norte is likely to become even more interdependent in the future**

Draft Energy Report
Border Energy

The state should establish a cross-border, bi-national policy to:

1) **ensure that planning, permitting, construction and operation of electricity and natural gas infrastructure in the border region are coordinated and comply with the highest level of environmental requirements;**
2) **implement a common methodology to forecast energy demand in the border region;**
3) **implement a "loading order" to encourage development of the most efficient, clean, and cost-effective energy options to meet demand;**
4) **develop programs to reduce demand and develop indigenous renewable resources;**
5) **implement a cross-border emissions credit trading and offsets program; and**
6) **provide opportunities to improve the overall efficiency of transportation systems and goods movement and expand the use of non-petroleum fuels.**

2005 Energy Report Hearing

September 27, 2005

To call and participate
in today's meeting,
please call:

888-790-1711

Passcode: **HEARING**
Call Leader: **Kevin Kennedy**

Written comments due October 14